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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/929,805 | 08/14/2001 | Michael Karl Gschwind | YOR920010675 | 2573 |

7590 04/02/2004

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EXAMINER

KIM, KENNETH S

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2111

DATE MAILED: 04/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/929,805

Applicant(s)

GSCHWIND ET AL.

Examiner

Kenneth S KIM

Art Unit

2111

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

KENNETH S. KIM
PRIMARY EXAMINER

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. Claims 1-10 are presented for examination.
2. The abstract of the disclosure is objected to because the current abstract does not reflect the inventive feature to distinguish over the prior art. Correction is required. See MPEP § 608.01(b).

All amended abstracts are to be submitted on a **separate sheet** (without the brackets and underlines) in addition to a mark-up copy.

- 3 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-8 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Abdallah et al, U.S. Patent No. 6,192,467.

Abdallah et al teaches the invention as claimed in claim 1 including a processor designed to operate in a plurality of modes for processing vector and scalar instructions comprising:

- (a) one or more register files for storing scalar and vector data (col. 6, lines 5 and 6),

Art Unit: 2111

(b) a parallel vector unit coupled to receive data from one or more register files and comprising a plurality of functional units configured to operate in vector operation mode and scalar operation mode (col. 8, line 9),

(c) wherein in a vector operation mode, the parallel vector unit performs a single vector operation on a plurality of data elements, the operation on each element performed by respective functional unit (col. 6, line 59; col. 8, line 18),

(d) wherein in a scalar operation mode, the parallel vector unit performs a scalar operation on a data element in a functional unit (col. 6, line 58; col. 7, line 13),

(e) wherein mode selector reads a mode identifier associated with each instruction (col. 6, line 63; col. 7, line 32) – claim 2,

(f) further including a power saving unit disables functional units not used by disabling clock signal or supply voltage (col. 4, line 6) during scalar operation – claims 3-6, and

(g) further comprising means for designating functional unit necessary for performing the instruction (col. 9, line 1) or at system design (col. 8, line 65) – claims 7, 8, and 10.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Abdallah et al, U.S. patent No. 6,192,467 in view of Bindloss et al, U.S. Patent No. 5,778,241.

Abdallah et al teaches the invention substantially as claimed as set forth in paragraph 4 above, however does not expressly state that a tag is associated with each datum stored in register file to indicate valid data and to cause functional units active for processing the instruction.

Bindloss et al teaches a processor operating in vector and scalar modes with mode indication (and hence use of functional units) identified in each instruction or as an alternative a tag associated with each datum and additional bits for more detailed information (col. 12, line 55).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made that the method of identifying the characteristics of the operand datum to be processed in functional units using a tag associated with each operand datum over using identifications in the instruction is a design choice. The person would have been motivated to implement the alternative method alone or in combination to enhance the suitability or versatility.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chiarulli et al taught a processor with configurable segments to accommodate various combination of plural data word length.


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth S KIM whose telephone number is (703) 305-9693. The examiner can normally be reached on M-F (8:30-17:00).

Art Unit: 2111

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (703) 305-4815. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

March 29, 2004



KENNETH S. KIM
PRIMARY EXAMINER